

SPECIAL REPORT

TD Economics



September 4, 2013

STATE FISCAL PLANNING: TAMING TAX REVENUE VOLATILITY

Highlights

- It is well known that the Great Recession devastated state public finances. However, less known is that the recession revealed state tax revenues to be more sensitive to business cycles. Volatility in state revenues far exceeded that of nominal GDP.
- Some of the explanation lies with changes in the structure of personal income and in the composition of state tax revenues.
- There are a number of ways state governments can attempt to mitigate revenue volatility and shield coffers during economic downturns. These include increasing the diversification of tax revenue sources, as well as considering a greater role for sales taxes. The latter tends to be more stable, with on-line retail purchases offering a promising and largely untapped revenue source.
- Alternatively, accumulating a sizable rainy day fund could also be an effective stabilization measure for states which experience significant tax revenue fluctuations.
- While fiscal stability is an important goal, changes to tax policy should also involve other considerations, such as fairness, administrative and compliance costs, and last, but not least, the effect of taxes on economic growth and efficiency.

The Great Recession not only devastated public finances, but also revealed that state tax revenues have become increasingly susceptible to economic business cycles. Even with existing stabilization mechanisms in place, such as rainy day funds, many state governments found themselves unprepared for the economic downturn. In 2009, tax collections plummeted by a whopping 11.2%, blasting holes in state budgets, even as the nominal GDP only fell by 2%. State finances have gone through a significant transformation since then. After three years in recovery, revenues are finally on track in 2013 to top the pre-recession levels in inflation-adjusted terms (see Chart 1).

With memories of the recession still fresh, now might be a good time for state fiscal planners to re-examine their existing budget designs and to address shortcomings exposed during the downturn. To contribute to the dialogue, we put forward three potential options to enhance fiscal stability: increased diversification of state revenues, a greater role for sales taxes, and larger savings in good economic times.

The state of state finances

State finances have undergone a significant transformation since the recession. Revenues from state tax collections have

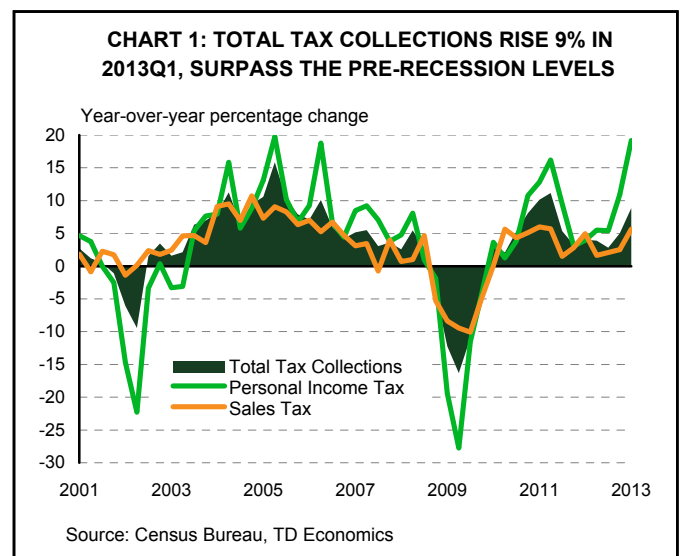
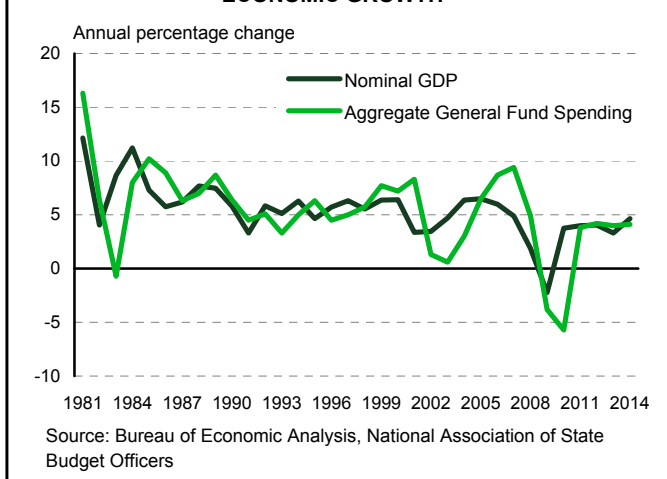
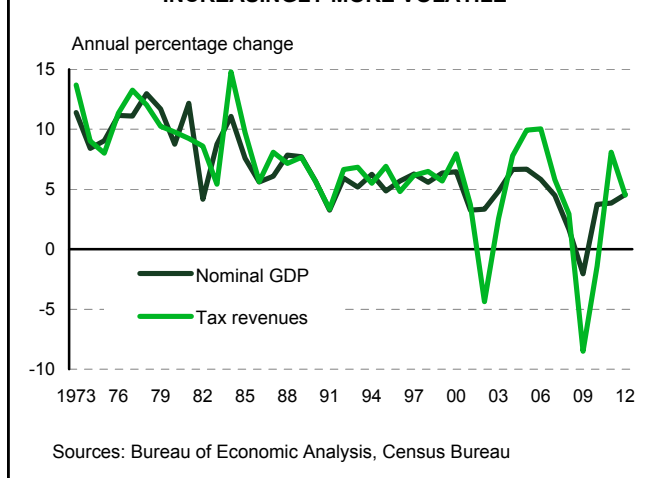


CHART 2: STATE SPENDING CLOSELY TRACKS ECONOMIC GROWTH


been on an upswing for the past three years, and are projected to increase again in fiscal year (FY) 2014, rising by 4%.¹ Last year, collections increased in 47 states, with California, Michigan, and Wyoming the only states posting declines. Aggregate tax revenues finally caught up with their peak 2008-level, with 40 states meeting or exceeding their original revenue forecasts. With budget constraints slowly lifting, state spending has also picked up. Over the past three fiscal years, general fund expendituresⁱⁱ, on average, increased by 4% annually, closely tracking gains in nominal GDP (see Chart 2). In FY2014, 42 governors recommended higher general fund spending, with 18 proposing increases of more than 5%.¹

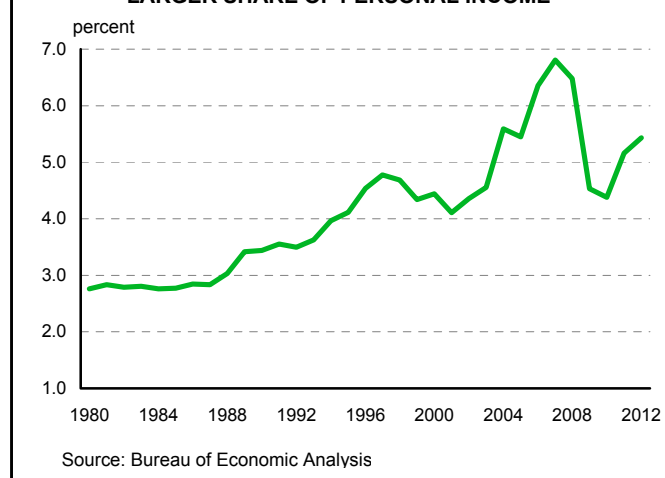
In spite of this progress, public finances are not out of

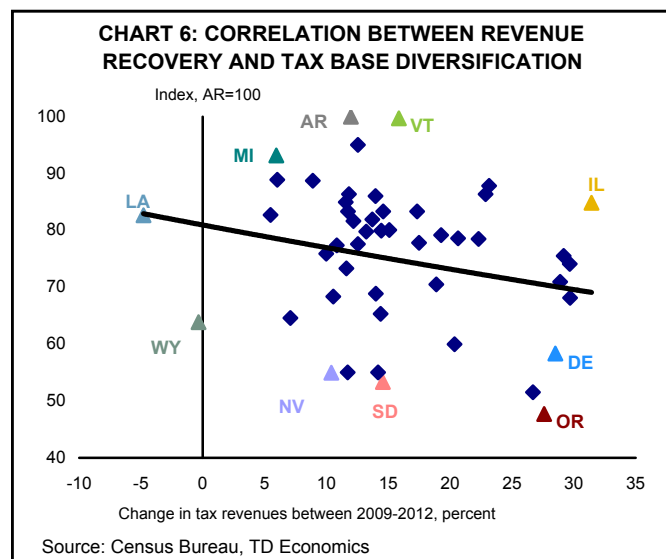
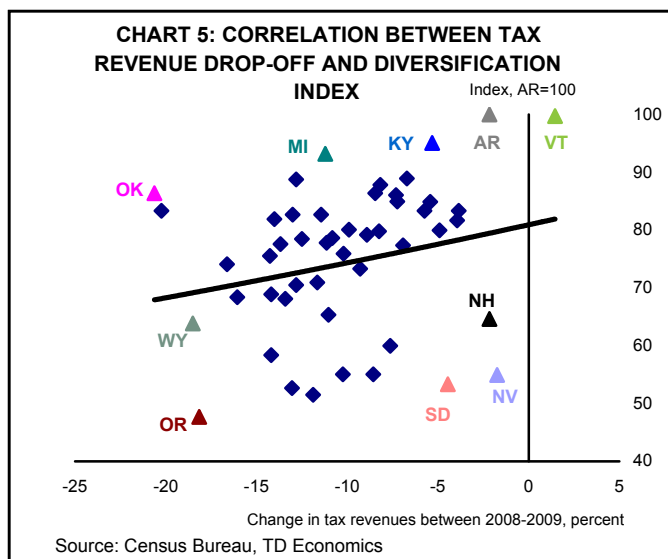
CHART 3: TAX REVENUES ARE BECOMING INCREASINGLY MORE VOLATILE


the woods yet. In 14 states, tax collections still have not recovered to their pre-recession level. Aside from those which are prone to excessive revenue volatility due to their reliance on natural resources royalties (Alaska, Wyoming), some of the biggest revenue gaps are in Arizona, Georgia, Michigan and Illinois – ranging from 5% to 15%. Moreover, time did not stand still over the past six years. As of 2012, real (inflation-adjusted) revenue collection was still 1.8% below the pre-recession level. As a result, 2013 will mark the first year when inflation-adjusted state tax revenue will surpass pre-recession levels. Additional budgetary strains will also come from the expiration of the Recovery Act funds, ongoing federal fiscal restraint, elevated unemployment, and funding pressures from local governments and state pensions.

Fiscal stability is more elusive than ever

As painful as it was, the Great Recession provided a valuable lesson for future fiscal planning. Now that the states have emerged from the recession-induced fiscal crunch, their attention is increasingly shifting toward reassessment of their existing fiscal policies and practices. Long-term fiscal sustainability, and the ability to withstand potential economic downturns, are front and center in this discussion. The evidence from the Great Recession, as well as the last decade, demonstrated that state tax revenues have become increasingly sensitive to economic performance, with volatility far exceeding that of nominal GDP (see Chart 3). In this context, it is important to look at the source of this volatility and ask whether anything can be done to minimize exposure

CHART 4: DIVIDEND INCOME ACCOUNTS FOR A LARGER SHARE OF PERSONAL INCOME




of state budgets to future business cycles.

One of the factors behind increased instability of revenues is the change in the composition of taxes. For example, states today rely more on income taxes, which are inherently more volatile than other forms of tax revenues, such as general sales taxes. From previous analysis, we found that a 1 percentage point (ppts) decrease in employment growth lowers corporate income tax revenue growth by 3 ppts, personal income tax revenue growth by 2.6 ppts and sales income tax revenue growth by 1.7 ppts.

Moreover, the composition of personal income also matters, since some components, such as investment income, are more sensitive to economic conditions than others. Thus, a rise in a share of dividend income in recent years has made income tax collections even less predictable (see Chart 4). Between 2007 and 2009, total sales tax collections fell by 8%, while personal and corporate income tax revenues plunged by 15% and 18%, respectively. Rapidly increasing unemployment and waning consumer demand had much to do with these declines; however, the drop-off was undoubtedly exacerbated by plunging equity prices.

The impact from financial sector fallout was more pronounced in states with high concentration of financial services – such as New York, Connecticut, Delaware – where both personal and corporate tax revenues took a larger hit. While the stock markets have since surpassed their pre-recession highs, the financial industry continues to undergo restructuring, weighing on corporate tax collections in these states. Before the financial collapse, business and personal income tax collections from Wall Street accounted for up to

20% of New York state’s tax revenues. That figure declined to 14% in 2012, largely reflecting the smaller size of the industry as a whole.³

Diversify and prosper

Greater diversification of state revenues is often advocated as an effective strategy to increase the stability of state budgets – an important consideration when it comes to fiscal planning. By constructing a diversification index of state tax collections, we examined the correlation between tax diversification and revenues related to the recession-induced drop-off and subsequent recovery.ⁱⁱⁱ States with a less diversified tax base were the ones that omitted one of the tax components, such as income taxes or sales taxes (see Table 1). Our index was negatively correlated with revenue changes during both recession and recovery phases (see Charts 5, 6). This suggests that diversification indeed helped to reduce the overall revenue volatility.

TABLE 1: TOP 10 STATES IN TERMS OF TAX REVENUE DIVERSIFICATION AND VOLATILITY	
Most Diversified	Most Volatile
Arkansas	Alaska
Vermont	North Dakota
Kentucky	Wyoming
Michigan	Vermont
Alabama	Nevada
Arizona	Montana
Minnesota	Texas
Maryland	New York
Oklahoma	Connecticut
Pennsylvania	Arkansas

Source: Census Bureau, TD Economics

Marketplace Fairness Act

It appears that policymakers may finally be listening to calls for a greater role of e-commerce sales tax in state revenues. In early May, the U.S. Senate passed the Marketplace Fairness Act (MFA) – a bill that requires out-of-state on-line retailers with more than \$1 million in annual revenues to collect and remit state and local sales taxes. As its name suggests, MFA also aims to level the playing field between the online retailers and brick-and-mortar stores. The latter are already required to collect sales tax at the point of sale, while the former do not face this administrative hurdle, which could give them pricing advantage.

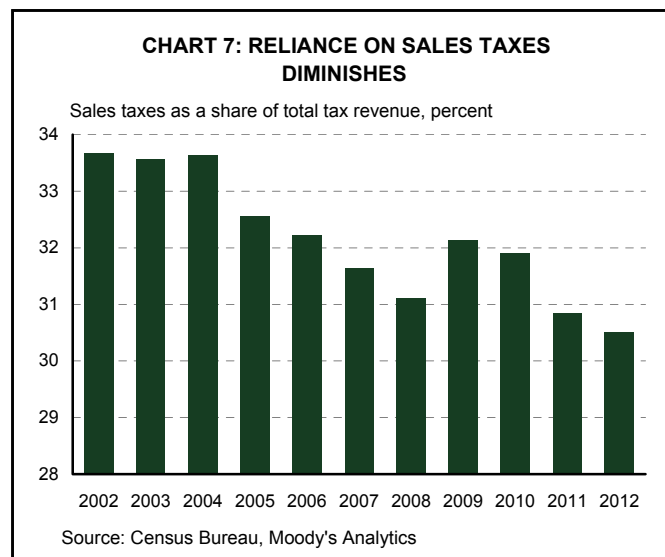
While this may be a welcome development for the state governments, it is too soon to celebrate: enactment is unlikely this year as the bill has yet to survive a significant opposition from the House of Representatives and could be challenged in court. Resistance also stems from small on-line businesses and their supporters, who contend that small business exclusion bar is set too low as well as the fact that collecting and remitting sales taxes from roughly 9,600 taxing jurisdictions⁶ would impose a disproportional burden on small on-line retailers. With respect to the latter, the Act guides states to simplify their tax laws; more specifically, only states which comply with Streamlined Sales and Use Tax Agreement (SSUTA) or those that meet a second minimum tax simplification standard outlined in the bill will be able to collect taxes. Currently, 24 states satisfy SSUTA's requirements, and 19 more are working toward complying (See Table A in Appendix).

Sales taxes are the backbone of revenue stability

Diversification is not the only path to reducing revenue volatility. Greater use of sales taxes also appears to pay off during economic downturns. This was especially true during the last recession for states – such as Washington, Florida, South Dakota, and Nevada – where sales taxes account for more than half of all revenues.

A gradual decline in states' dependence on more stable sales taxes has also contributed to increased instability of tax revenues. While sales taxes still represent a significant revenue source for state governments, their relative contribution to total collections has been waning for years, falling from a high of nearly 34% in 2002 to 30.5% in 2012 (see Chart 7).

Several factors are behind this slow erosion of the sales



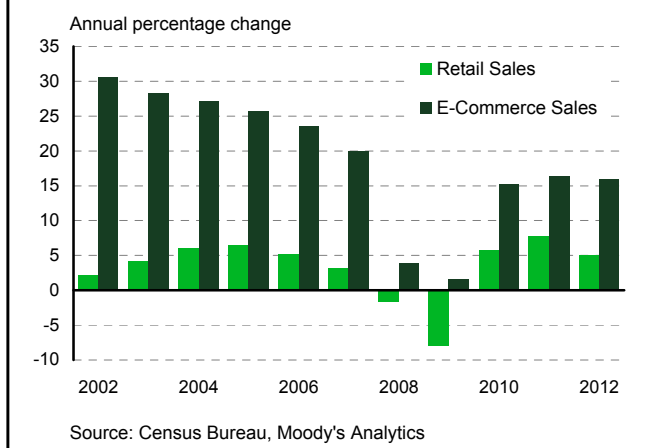
tax base. Research suggests that a shift in consumption patterns away from goods and toward services is a potential contributor. Indeed, based on nominal spending, the share of services in the consumption basket rose by 3 percentage points over the past 20 years. Since taxes are levied on nominal purchases and because services are taxed far less broadly, this has undoubtedly contributed to a shrinking tax base. An ongoing introduction of numerous new legislative tax exemptions for various goods and services also played a part, narrowing the tax base in virtually every state.

Are e-taxes the future of sales taxes?

A rapid rise in e-commerce is also a contributor to the erosion of the sales tax base.⁴ While every jurisdiction with a sales tax imposes a corresponding “use tax”^{iv} on remote purchases, states must rely on voluntary compliance by consumers. Under current law, states cannot reach beyond their borders and compel out-of-state online retailers to collect the use tax owed by their residents. Compliance among consumers is low and enforceability is difficult. As a result, the bulk of on-line transactions go untaxed.

On-line sales still represent a fairly small share of total sales – in 2012 they accounted for approximately 5.1%, but they are growing rapidly. Online sales have expanded by 16% annually over the past 3 years, compared with 6% growth in all retail sales (see Chart 8). Sales taxes on e-commerce transactions remain an untapped and promising revenue source for state and local budgets, and states have pressed Congress for years to act on it. These calls have intensified as states emerged from a deep recession only to

CHART 8: GROWTH IN E-COMMERCE CONTINUES TO OUTPACE MAIN STREET RETAIL



be faced with federal spending cuts.

With or without the federal law, one thing seems to be certain: states are tightening their grip on the e-commerce sales tax loophole. While it is true that the passage of Marketplace Fairness Act (MFA) would grant them the authority to collect sales tax from out-of-state remote sellers, states can already require online retailers with in-state physical presence, or “nexus”, to collect and remit sales taxes.^v This fact has not gone unnoticed.

Based on a 2011 estimate by the California State Board of Equalization, the top ten on-line retailers accounted for almost half of all e-commerce sales. Some states began the process of identifying large online businesses, such as Amazon.com, which have a presence in their jurisdiction. The states have also attempted to get around the 1992 Supreme Court *Quill vs. North Dakota* ruling on sales tax collection by businesses without in-state presence by re-defining what constitutes as a state “nexus”. With regard to on-line retailers, the most popular approach so far was the introduction of affiliate nexus, or the Amazon law, which requires out-of-state retailers to collect tax if a significant number of local sales are generated by affiliate marketers in that state. Following several litigations, Amazon.com struck a deal with a number of states and is currently collecting sales tax in ten jurisdictions.^{vi}

Led by Amazon.com, sales taxes collected by large e-retailers are starting to trickle down to government coffers. The California State Board of Equalization announced that it has collected \$96.4 million in sales tax on internet commerce in the fourth quarter of 2012 – the first full quarter of data. Meanwhile, in New Jersey, where Amazon began collecting

taxes in July 2013, it is expected to bring an estimated \$40 million in annual revenue.

While the regional budgets will undoubtedly welcome the extra funds, taxation on e-commerce is still in its infancy. Thus, it is hardly surprising that the initial amounts are modest compared to total sales and use tax collections. Additional revenue also falls short of the estimates provided by the National Conference of State Legislatures (NCSL). According to NCSL, states cumulatively lost \$23.1B in sales revenue last year as a result of untaxed on-line and catalogue purchases, with Florida and New Jersey under-collecting \$4.2bn and \$0.4bn respectively.

Our estimates of 2012 revenue losses from untaxed on-line retail sales are more conservative than those provided by NCSL. They range from \$13.5bn to \$16.7bn (or 1.7-2.1% of total tax revenues), depending on whether an average state-level or a combined state and local tax rate is used (see Table 2). However, estimating losses from e-sales is complicated by tax exemptions for certain goods and services, by a lack of compliance, and by possible substitution back to brick-and-mortar purchases. As such, even these estimates are likely at the upper end of the range.

Estimates for individual states can be found in Table 2. As expected, jurisdictions that rely most heavily on sales tax are most exposed to revenue losses as a result of untaxed online purchases. For example, in states such as Washington, Florida, Tennessee, South Dakota, Nevada and Texas – most of which do not charge personal and/or corporate income tax – sales tax collections account for more than half of their total tax revenues. Therefore, in these states, losses from uncollected online sales tax are more substantial, ranging from 3.4% to 4.1% of their total tax collections.

Should Marketplace Fairness Act become a law, its overall impact on states’ revenue collections will be fairly modest. Thus, taxation of online purchases is unlikely to be a silver bullet to all their fiscal issues. Still, in the environment of slow economic growth and federal fiscal restraint, even a small change can make a big difference to the bottom line. Moreover, the growth of e-commerce is projected to remain brisk over the next several years and failure to act on it now may result in more substantial revenue shortfalls down the road.

Saving for a rainy day

Other than diversifying or broadening their existing tax base, states with significant tax revenue volatility – such as

Alaska, North Dakota, Wyoming, Vermont, Nevada, New York and Texas – have other options for reducing their exposure to swings in revenue flows. One way to avoid painful spending cuts during economic downturns is to borrow the revenue shortfall. However, most states are legally required to operate under balanced-budgets, which makes this option largely out of reach. Alternatively, a rainy day fund (or stabilization fund) – currently present in 46 states – can be an effective countercyclical tool.

States entered the most recent recession with record levels of reserves (which includes both the rainy day fund and general fund balances) equal to 11.5% of their general fund expenditures. This helped to lessen the blow from dwindling revenue flows. However, given the depth of the recession, even these relatively high reserve levels proved insufficient and were quickly drained. By 2009, reserves fell to 5.2% (see Chart 9), however this number was skewed upward by Alaska and Texas, both of which had mammoth reserves. Excluding them, aggregate reserves equaled a meager 2.4% of general expenses - a small cushion against the forthcoming budget gaps over the next 2-3 years.

Many states have statutory caps, which limit the amount that may be held in a rainy day fund. Back in 2011, this prompted Fed Chairmen Bernanke to note in his speech that some state “governments may wish to revisit their criteria for accumulating and using fiscal reserves.” Four states raised the cap on the amount of funds to be held in rainy day funds since then. Georgia, Oklahoma, Virginia all ramped-up their limits from 10% to 15% – with the latter being a minimum lower bound on reserves suggested by the

Center on Budget and Policy Priorities and the Government Finance Officers Association. Meanwhile, South Carolina increased its very low cap of 3% to 5% - still low but a move in a right direction.

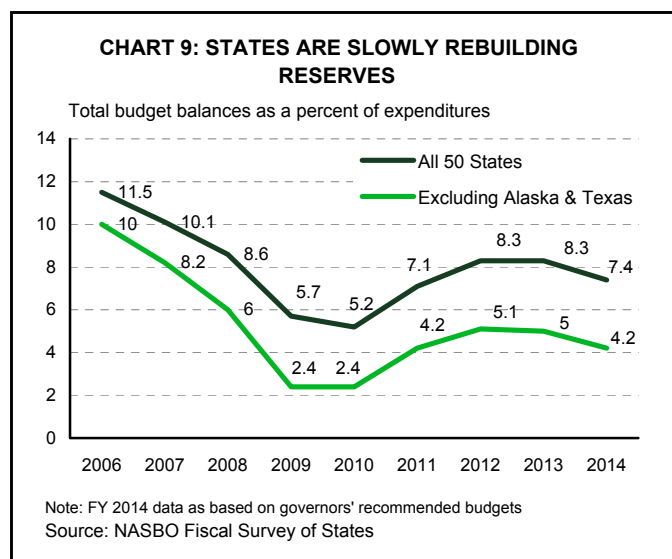
Other states – Massachusetts, Washington and Hawaii – also implemented new rules which would improve the prospects of replenishing the fund in the future. Massachusetts, which already sets a budget for its rainy day fund rather than simply relying on unused year-end surpluses, now requires any capital gain tax collections in excess of \$1 billion annually to be deposited in state reserves. Washington State introduced a measure that requires any extraordinary revenues, (i.e. revenues that exceed the 5-year average by more than one-third), to be deposited in its rainy day fund. In both of these cases, states are aiming to capitalize on good economic times, using volatile or unexpected revenues to beef-up reserves. This strategy might be particularly useful for those jurisdictions whose budgets rely on revenues from royalties and investment income and are exposed to significant year-to-year fluctuations.

Since the nadir of 2009, states have made significant progress at rebuilding their reserves, which in FY2014 are projected to reach 7.4% of general expenses. However, the improvement has been uneven. Eight states have reserve balances less than 1%. Of these eight, two do not have a rainy day fund. State budgets in Kentucky, Maine, New Hampshire, New Jersey, Connecticut and Pennsylvania continue to operate essentially without a safety net. On the other hand, oil-rich states – such as Texas, Alaska, North Dakota and Wyoming – were able to amass sizable reserves. Texas and Alaska alone are projected to account for 47% of states total balances in fiscal 2014. Excluding these states, the aggregate level of reserves is expected to be only 4.2%.

Bottom Line

After several years of slow recovery, state tax revenues look to finally be over the hump this fiscal year, with inflation-adjusted state tax revenues expected to surpass their pre-recession level. While this is certainly an important milestone, states will need to continue to closely monitor their finances. This means there will be little wiggle room in the state budgets in terms of additional spending, bringing more difficult resource allocation decisions for the fiscal planners.

Despite these challenges, it is a good time to address design flaws of budgets, particularly as the memories of the Great Recession remain fresh. In particular, states should



take steps to enhance the cyclical stability of their revenue flows. Exploring the diversity of their tax base, increasing the use of sales taxes and having an adequate and well-functioning rainy day fund are several possible solutions. While fiscal stability is an important goal, changes to tax policy should also involve other considerations, such as fairness, administrative and compliance costs, and last, but not least, the effect of taxes on economic growth and efficiency.

Ksenia Bushmeneva, Economist
416-308-7392

TABLE 2: ESTIMATED STATE REVENUE LOSSES FROM UNCOLLECTED TAXES ON E-COMMERCE

State	State Tax Rate*	Combined State and Local Rate*	Revenue Loss Based on State Rate, \$M	Share of Total Tax Revenues	Revenue Loss Based on Combined Rate, \$M	Share of Total Tax Revenues	Revenue Loss Based on NCSL Estimate, \$M
Alabama	4.00%	8.45%	126.0	1.4%	155.2	1.8%	347.7
Alaska	None	1.69%	0.0	0.0%	0.0	0.0%	3.0
Arizona	6.60%	9.16%	262.4	2.3%	323.3	2.8%	708.6
Arkansas	6.00%	8.61%	154.5	1.8%	190.3	2.3%	113.9
California	7.50%	8.38%	1,732.7	1.5%	2,135.0	1.9%	4159.7
Colorado	2.90%	7.39%	130.5	1.2%	160.8	1.5%	352.6
Connecticut	6.35%	6.35%	210.3	1.4%	259.1	1.7%	152.4
Delaware	None	None	0.0	0.0%	0.0	0.0%	0.0
Florida	6.00%	6.62%	1,107.1	3.2%	1,364.1	3.9%	1483.7
Georgia	4.00%	6.99%	286.3	1.7%	352.7	2.1%	837.6
Hawaii	4.00%	4.35%	156.1	2.7%	192.3	3.3%	122.5
Idaho	6.00%	6.02%	69.9	2.0%	86.2	2.5%	103.1
Illinois	6.25%	8.13%	442.0	1.2%	544.6	1.5%	1058.8
Indiana	7.00%	7.00%	367.5	2.3%	452.8	2.9%	398.8
Iowa	6.00%	6.82%	126.4	1.7%	155.8	2.1%	181.0
Kansas	6.30%	8.25%	157.7	2.0%	194.3	2.5%	279.2
Kentucky	6.00%	6.00%	167.5	1.6%	206.4	1.9%	224.5
Louisiana	4.00%	8.87%	159.5	1.8%	196.6	2.2%	808.3
Maine	5.00%	5.00%	58.5	1.5%	72.1	1.9%	65.4
Maryland	6.00%	6.00%	225.7	1.3%	278.1	1.6%	375.9
Massachusetts	6.25%	6.25%	281.3	1.2%	346.7	1.5%	268.0
Michigan	6.00%	6.00%	468.7	2.0%	577.5	2.4%	288.9
Minnesota	6.88%	7.16%	253.5	1.2%	312.3	1.5%	455.2
Mississippi	7.00%	7.00%	171.8	2.4%	211.7	3.0%	303.2
Missouri	4.23%	7.46%	168.1	1.5%	207.1	1.9%	430.2
Montana	None	None	0.0	0.0%	0.0	0.0%	0.0
Nebraska	5.50%	6.78%	81.2	1.8%	100.0	2.2%	118.0
Nevada	6.85%	7.93%	181.0	2.8%	223.1	3.4%	344.9
New Hampshire	None	None	0.0	0.0%	0.0	0.0%	0.0
New Jersey	7.00%	6.97%	442.8	1.6%	545.6	2.0%	413.4
New Mexico	5.13%	7.26%	92.0	2.0%	113.4	2.4%	246.0
New York	4.00%	8.48%	658.4	0.9%	811.3	1.1%	1767.0
North Carolina	4.75%	6.87%	305.1	1.3%	376.0	1.6%	436.5
North Dakota	5.00%	6.52%	69.4	1.2%	85.6	1.5%	31.3
Ohio	5.50%	6.80%	433.2	1.6%	533.8	2.0%	628.6
Oklahoma	4.50%	8.67%	138.0	1.6%	170.0	2.0%	296.3
Oregon	None	None	0.0	0.0%	0.0	0.0%	0.0
Pennsylvania	6.00%	6.34%	506.8	1.5%	624.4	1.9%	706.2
Rhode Island	7.00%	7.00%	47.0	1.6%	57.9	2.0%	70.4
South Carolina	6.00%	7.08%	163.8	2.0%	201.8	2.4%	254.3
South Dakota	4.00%	5.82%	45.2	3.1%	55.6	3.8%	60.8
Tennessee	7.00%	9.44%	383.6	3.1%	472.7	3.8%	748.5
Texas	6.25%	8.14%	1,378.9	2.8%	1,699.1	3.4%	1777.1
Utah	5.95%	6.67%	104.8	1.7%	129.1	2.1%	180.7
Vermont	6.00%	6.14%	18.9	0.7%	23.3	0.8%	44.8
Virginia	5.00%	5.00%	193.6	1.0%	238.6	1.3%	422.7
Washington	6.50%	8.86%	603.0	3.4%	743.0	4.1%	541.0
West Virginia	6.00%	6.04%	70.5	1.3%	86.8	1.6%	103.3
Wisconsin	5.00%	5.43%	236.9	1.5%	291.9	1.8%	289.0
Wyoming	4.00%	5.34%	40.4	1.8%	49.8	2.3%	61.7
D.C.	6.00%	6.00%	56.6	0.9%	69.8	1.2%	n/a
Total			13,535.4		16,677.7		23,064.7

* State and Local Tax Rates as of July 1, 2011

Sources: Tax Foundation, U.S. Census Bureau, National Conference of State Legislatures, TD Economics

Appendix

TABLE A: STATE PROGRESS WITH SSUTA COMPLIANCE			
Complying states	Working toward complying	States without sales tax	No action toward complying
Arkansas	Alabama	Alaska	Colorado
Georgia	Arizona	Delaware	
Indiana	California	Montana	
Iowa	Connecticut	Oregon	
Kansas	Florida	New Hampshire	
Kentucky	Illinois		
Michigan	Indianapolis		
Minnesota	Louisiana		
Nebraska	Maine		
Nevada	Maryland		
New Jersey	Massachusetts		
North Carolina	Mississippi		
North Dakota	Missouri		
Ohio	New Mexico		
Oklahoma	New York		
Rhode Island	Pennsylvania		
South Dakota	South Carolina		
Tennessee	Texas		
Utah	Virginia		
Vermont			
Washington			
West Virginia			
Wisconsin			
Wyoming			

Source: National Conference of State Legislatures

Endnotes

- i. Projection is based on tax collections from three sources: sales tax, and personal and corporate income tax.
- ii. The general fund is a fund where most state tax collections are deposited and from where most of discretionary expenditures are made. On the other hand, grants and reimbursements from the federal government make up most of a state's non-general fund, and tend to be earmarked for specific purposes.
- iii. Diversification index used in the paper is based on Herfindahl-Hirschman Index (HHI). HHI is a measure of the size of firms in relation to the industry and an indicator of the amount of competition among them, which is widely used in competition and antitrust law.
- iv. The use tax is an equivalent of the sales tax, applied when the consumer is located in a different state than the seller.
- v. Following 1992 Supreme Court ruling in *Quill Corporation vs. North Dakota*.
- vi. Amazon.com currently collects sales tax in Arizona, California, Kansas, Kentucky, New Jersey, New York, North Dakota, Pennsylvania, Texas and Washington. It is slated to begin collecting sales taxes in Connecticut, Massachusetts, and Virginia this year, and in Tennessee and South Carolina in 2014 and 2016, respectively.
- vii. States which do not operate a rainy day fund include Arkansas, Colorado, Illinois, Kansas, and Montana.

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